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VGA-C5 Series

User's Guide

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Getting Started

VGA-C5 Series is a broadcasting system to transmit AV signals (Audio and Video) over Cat5/5e/6 cable, it can reach the distance of up to 300m (1000 feet) and by stacking more system Transceivers, the whole system can extend AV signal up to 900m (2950 feet). You can broadcast the AV signal from PC, KVM switch, matrix AV switcher, or use optional TV Box or converter to connect DVD or other multimedia output devices. The video quality can be adjusted very easily from the FOCUS and GAIN Control in the Receiver. Take the advantage of UTP cable, VGA-C5 Series can simplify the installation, extend the AV signal, and centralize the multimedia server. For single port unit, you can fix the unit very easily through its magnetic pad and optional metal plate; for multiple port units, you can use the rack mounting kit to lock your device in an industrial cabinet. VGA-C5 Series is a perfect extension solution for projector, plasma TV, LCD TV, LCD monitor, HDTV, and CRT, as well as in a the area of Digital Signage broadcasting.

Key Features

- VGA-C5 Series can send VGA and Audio signal from Transmitter over Cat5/5e/6 cable, and broadcast AV signal in Receiver. The maximum broadcasting distance of each pair is 300 m (1000ft) and by stacking more system transceivers, it can reach the maximum distance of up to 900 m (2950ft).
- Transmitting different video type of VGA, Component, Composite, and S-Video by different cable kit
  a. **PC Cable Kit**: used to carry VGA Video + Audio, support all VGA format and with a maximum capacity of 2048x1536@300m (1000 ft)
  b. **HDTV Cable Kit**: used to carry Component Video + Audio, support 480i. 480p, 720i, 720p, 1080i, and 1080p video format and with a maximum distance of 300m
  c. **TV Cable Kit**: used to carry Composite / S-Video + Audio, Support 480i, 480p and 720i video format and with a maximum distance of 300m (1000 ft)
- Remote and local monitors and speakers can broadcast simultaneously
- Use Cat5 Enhance UTP cable (350MHz bandwidth) for superior video quality
- Plug & Play
- No Software required
- Supports VGA, SVGA, XGA, TFT_LCD, LCD TV, PDP, Projector with DDC2B function
- Transmitters and Receivers have built-in LEDs to indicate system status
- Cascading capability to extend Audio Video Broadcasting
- Single-Port Transmitter is equipped with magnetic pad and metal plate for easy installation

System Devices and Functions

Transmitter VGA-C5-S

a. Built-in one set of AV inputs (VGA + Audio)
b. Built-in one set of AV outputs (VGA + Audio) to monitor the AV signal broadcast
c. Built-in one RJ45 port for system output which can be connected by Cat5/5e/6 cable and send signal to System Receiver
d. Take the power from USB or optional power adapter

4/8/16-Port Transmitter VGA-C5-4, VGA-C5-8, VGA-C5-16

a. Built-in one set of AV inputs (VGA + Audio)
b. Maximum VGA resolution of up to 2048x1536@300m (1000 ft)
c. Built in one set of AV output (VGA + Audio) to monitor the AV signal broadcast
d. Built-in 4/8/16 RJ45 ports for system output which can be connected by Cat5/5e/6 cable and send signal to 4/8/16 of System Receiver or Transceiver

4/8-Port Transceiver VGA-C5-4-SR, VGA-C5-8-SR

a. Built-in one Remote system input (RJ45) which can receive the AV signal with video and focus control, you can adjust the video quality
b. Maximum supported extended VGA resolution of up to 2048x1536@300m (1000 ft)
c. Built-in one set of AV output (VGA + Audio) to monitor the AV signal broadcast
d. Built-in 4/8 RJ45 ports for system output which can be connected by Cat5/5e/6 cable and send signal to 4/8 sets of System Receiver or Transceiver

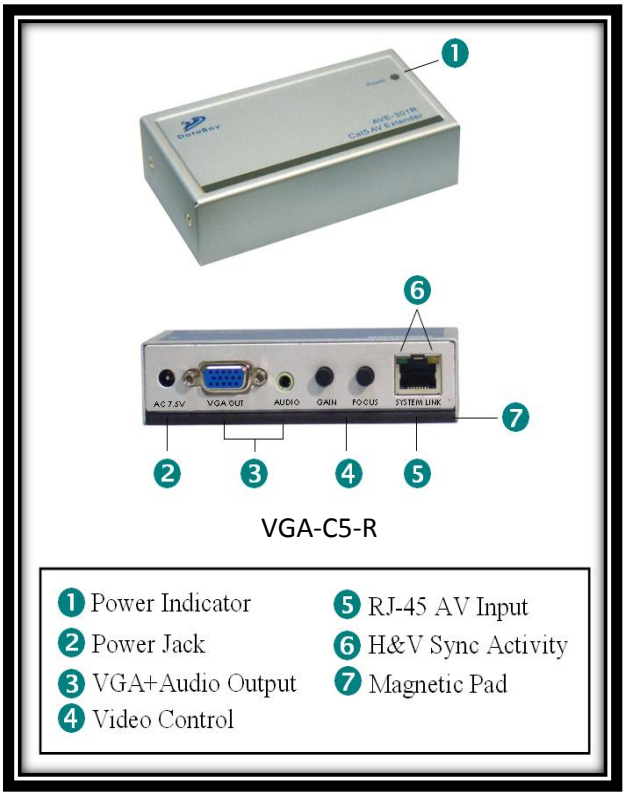
Receiver VGA-C5-R

a. Receive AV signal through RJ45 port, and with video and focus control, you can adjust the video quality
b. Maximum supported extended VGA resolution of up to 2048x1536@300m (1000 ft)
c. Built-in one set of AV outputs (VGA + Audio) to display the AV signal broadcast

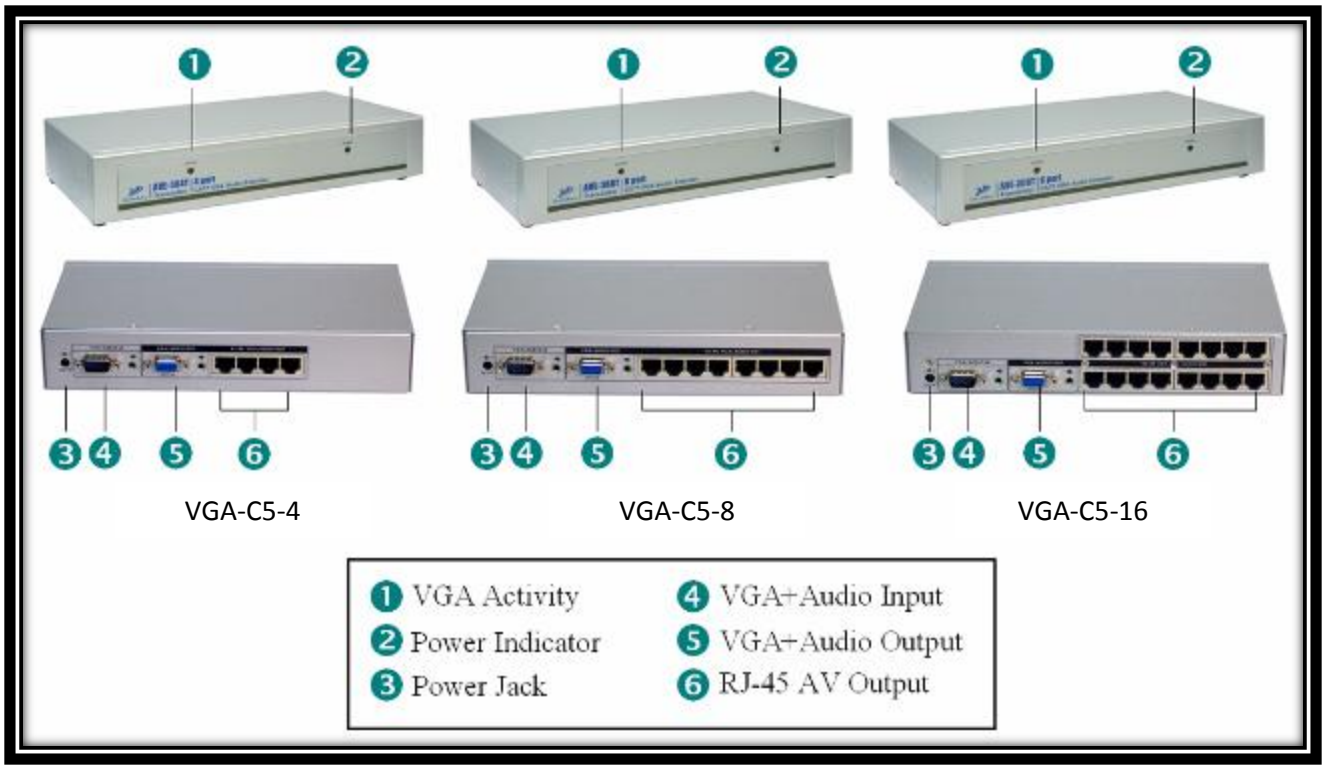
Panel Description

VGA-C5-S Single-Port AV Transmitter

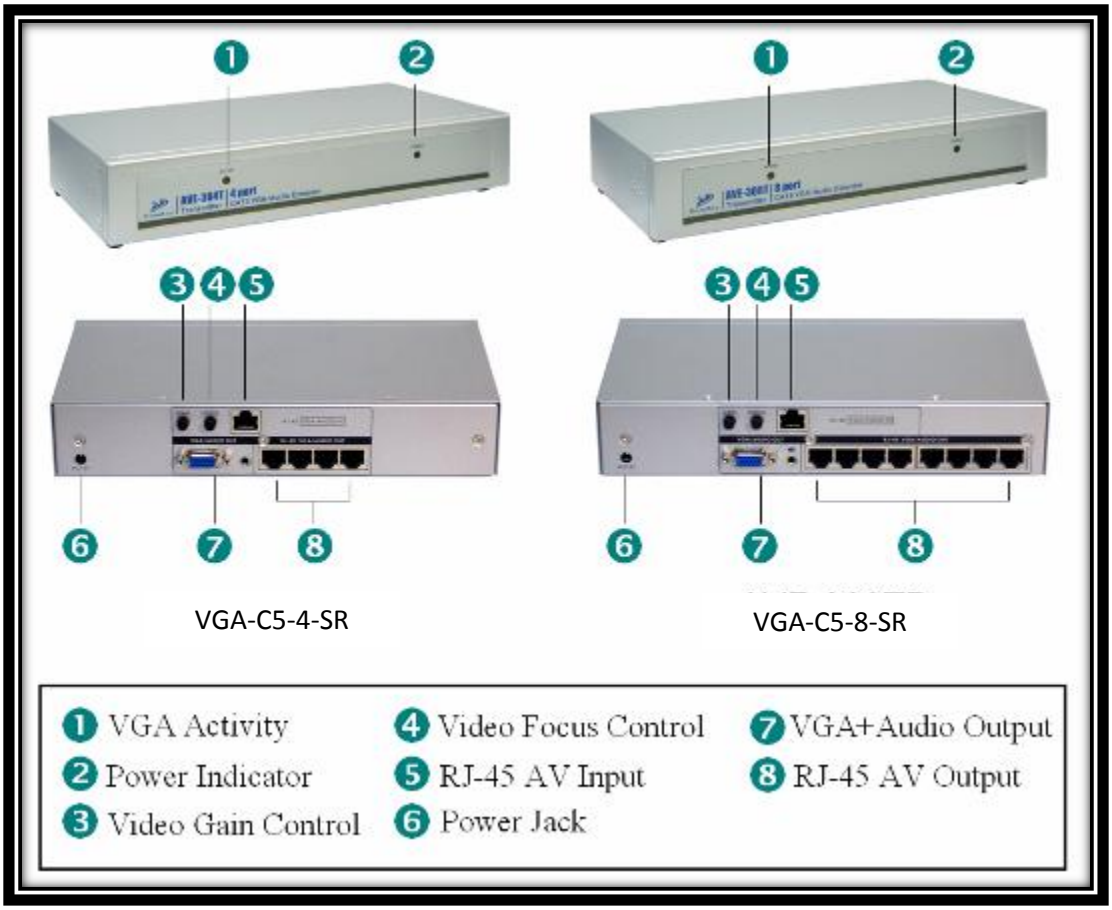
VGA-C5-R Single-Port AV Receiver



VGA-C5-4 / VGA-C5-8 / VGA-C5-16 Multi-Port AV Transmitter



VGA-C5-4-SR/ VGA-C5-8-SR Multi-Port AV Transceiver



Cable and Accessories

VGA + Audio + USB Power 3-in-1 cable for VGA-C5-S

VGA + Audio cable for VGA-C5-4, VGA-C5-8, VGA-C5-16

PC Cable Kit for VGA-C5 Series Video + Audio (Included)

HD15F-YCBCR70 (for player)

HD15M-YCBCR180 (for monitor)

HD15F-S3RCA70 (for player)

HD15M-S3RCA180 (for monitor)

HDTV Cable Kit for Component Video + Audio (Sold Separately)

TV Cable Kit for Composite, S-Video + Audio (Sold Separately)

Installation and Operation

VGA-C5 Series supports different video format by using different cable kit. Section 1 will describe how to extend **VGA and Audio signals** by PC cable kit and in Section 2 & 3 you should find the description of how to use **HDTV** and **TV** cable kit to extend Component, Composite, and S-Video.

Section 1: Extend VGA Video and Audio by PC Cable Kit

Transmitter VGA-C5-S Single-Port Installation

a. **Site Selection:** For first time installation, place Transmitter near the PC or AV devices (Audio + Video outputs); you can use magnetic pad to attach the unit on metal plane (e.g. PC / Server enclosure) or use attachable rack mount kit to fix the unit on selected area.

Unit attached with Rack Mounting Kit

b. **Connecting Monitor and Speaker:** Use 3-in-1 cable (VGA + Audio + USB Power) to connect the signal from AV device to the "VGA + Audio IN" port of Transmitter box and then connect monitor and speaker to the "VGA OUT" and "AUDIO" ports. The Transmitter can take the power through the USB port or if you are using DVD Player or other device without USB port, then plug optional power adapter (AC 7.5V, 1A).

Installation Diagram of System Transmitter VGA-C5-S

c. **Function Test:** Turn ON your AV device, the *POWER LED* should turn ON green to indicate the *POWER On* status and the LEDs above RJ45 will blink before VGA signal is turned ON and remain ON after VGA signal is turned ON.

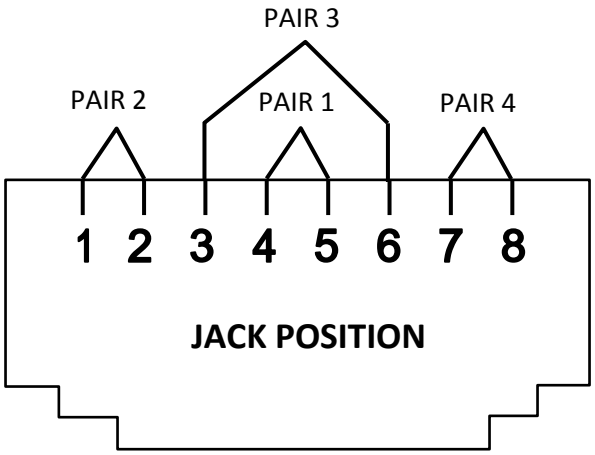
> *The maximum extended length of one section should not exceed 300 meters (1000 ft). The connector must be made by 568B/568B type.*

Receiver VGA-C5-R Installation and UTP Connection

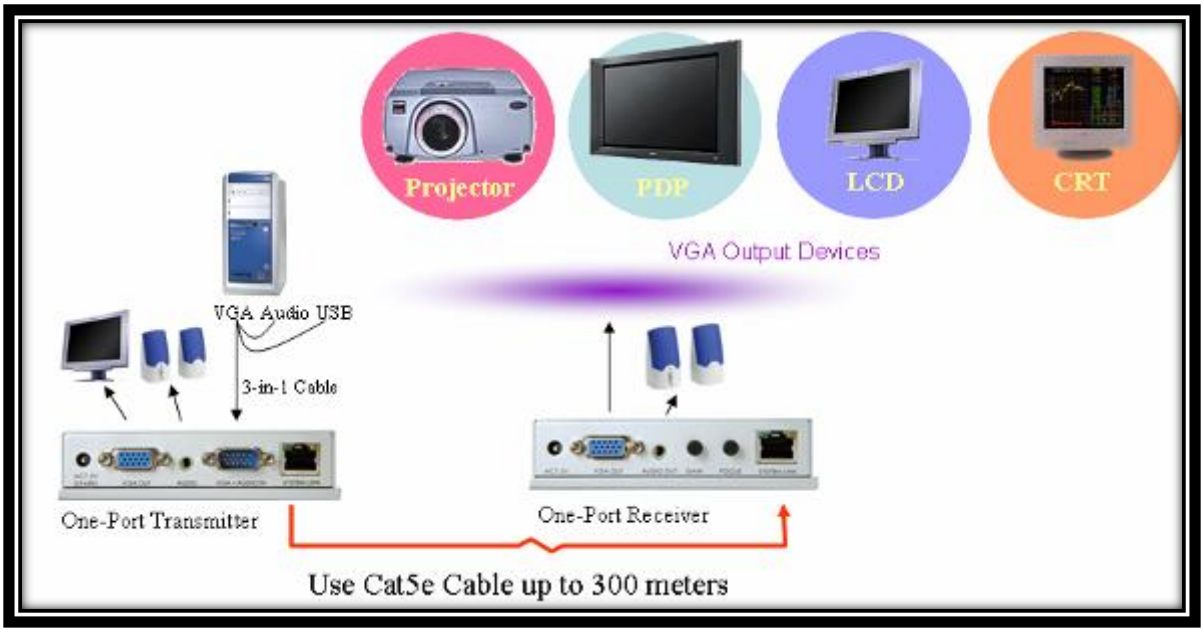
a. **Site Selection:** Place Receiver in an appropriate place and have the UTP cable settled for later connection.
b. **Power Up:** Plug power adapter to the Receiver and connect monitor and speaker to the VGA OUT and AUDIO port. The *POWER LED* will turn ON green to indicate the *POWER ON* status.
c. **Selection of UTP Cable:** For best VGA resolution, use Cat5e or Cat6 cable for connection.

1.	Orange White	2.	Orange	3.	Green White	4.	Blue
5.	Blue White	6.	Green	7.	Brown White	8.	Brown

The EIA/TIA definition of 568B in the pin assignment



d. **Connect UTP Cable:** Plug two ends of UTP cable to Transmitter and Receiver's RJ45 UTP link port. The Receiver's connected monitor and speaker should work now. You can adjust the FOCUS and GAIN control of receiver to have the best VGA display.



Installation Diagram of Receiver VGA-C5-R

e. **Function Test:** After above installation, you will be able to broadcast the AV signal to Receiver's connected monitor and speaker.

General Troubleshooting	
Problem	**Possible Solution**
Screen Defects Appear	• Check that VGA resolution and frequency is not over the limit of monitor display. • Check your current resolution, refresh rate and color depth settings in the **Settings** and Monitor tabs in your **Display** Properties dialog.
Off-Center Screen Image, Odd Colors or No Picture	• Try adjusting the brightness, sharpness, contrast, and color balance controls of your monitor. • Try adjusting the centering and positioning controls of your monitor to position the picture on the screen.
No Image	• Ensure that the monitor cable is securely fastened to the VGA and Monitor port. • Try to connect monitor and speaker directly to a PC to ensure basic functionality of these devices.

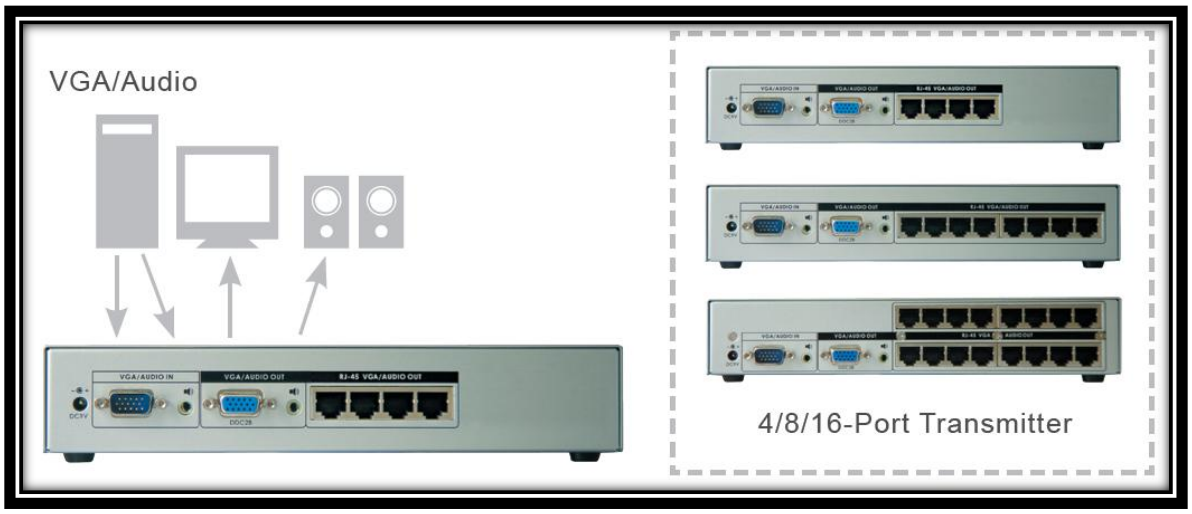
VGA-C5 Series Multi-Port Model: Installation and Operation

a. **Site Selection:** For first time installation, place Transmitter near the PC or AV devices; you can use rack mounting kit to fix the system box.

Rack Mounting Kit for Multi-Port Units

b. **Connecting Monitor and Speaker:** Plug power adapter to the Transmitter and connect monitor and speaker to "VGA/AUDIO OUT" port. The POWER LED will turn ON green to indicate the POWER ON status and "ACTIVE" LEDs should turn OFF to indicate the unconnected status. Then prepare VGA and Audio cables to connect the signal from your AV device to the "VGA/AUDIO IN" port of the Transmitter box.

c. **Local Function Test:** Power ON your AV device, the "ACTIVE" LEDs of the Transmitter will turn ON orange to indicate the video activation. You are now ready to do AV broadcasting.



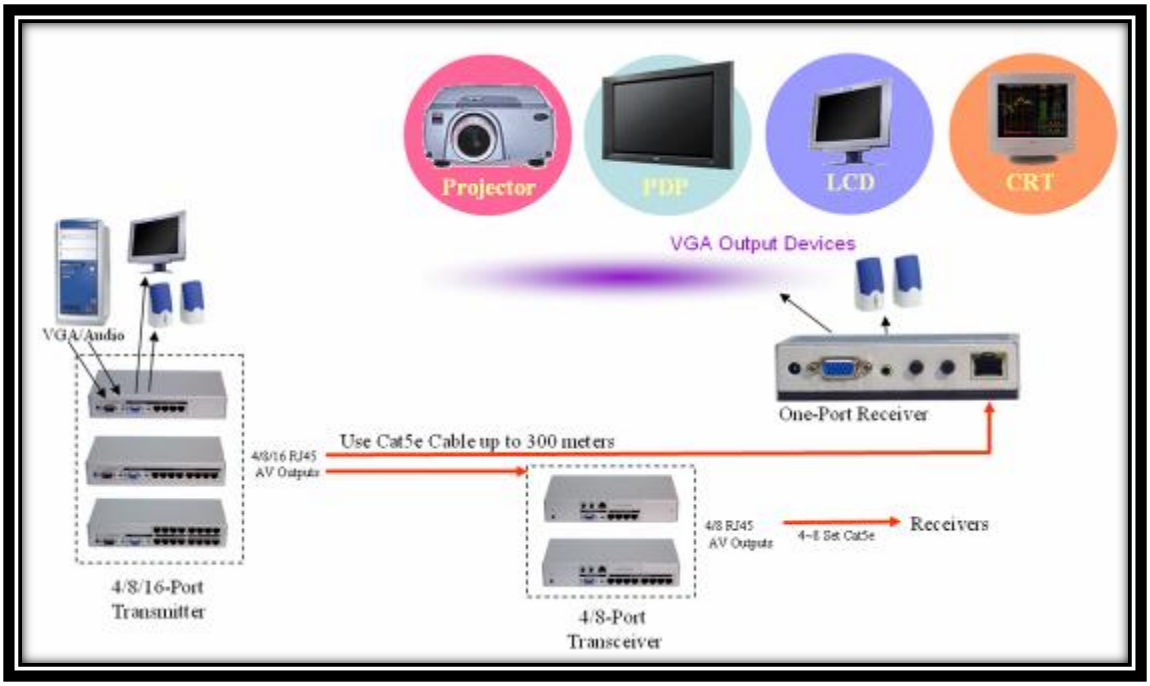
Installation Diagram of System Transmitter

d. **Receiver Installation:** Follow "Receiver VGA-C5-R Installation" steps to install VGA-C5-R Receiver.

> *The maximum extended length of this section should not exceed 300 meters (1000ft).*

e. **Transceiver Installation:** System Transceiver can be used to expand the AV displays. You can use 4/8 Port Transceiver model (VGA-C5-4, VGA-C5-8) to expand one AV signal to 4/8 AV signals. You may also stack more system Transmitter through their local AV port to generate more AV RJ45 outputs locally.

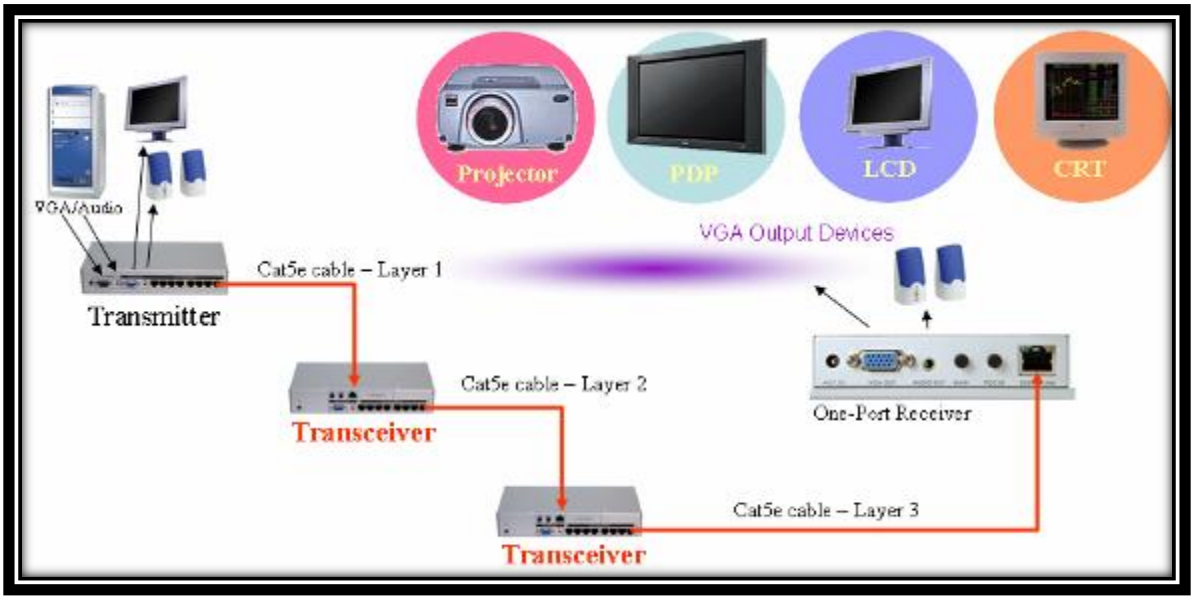
> *The maximum local stacking capacity is limited to 4 layers to ensure best broadcasting signal quality.*



Installation Diagram of System Receiver and Transceiver

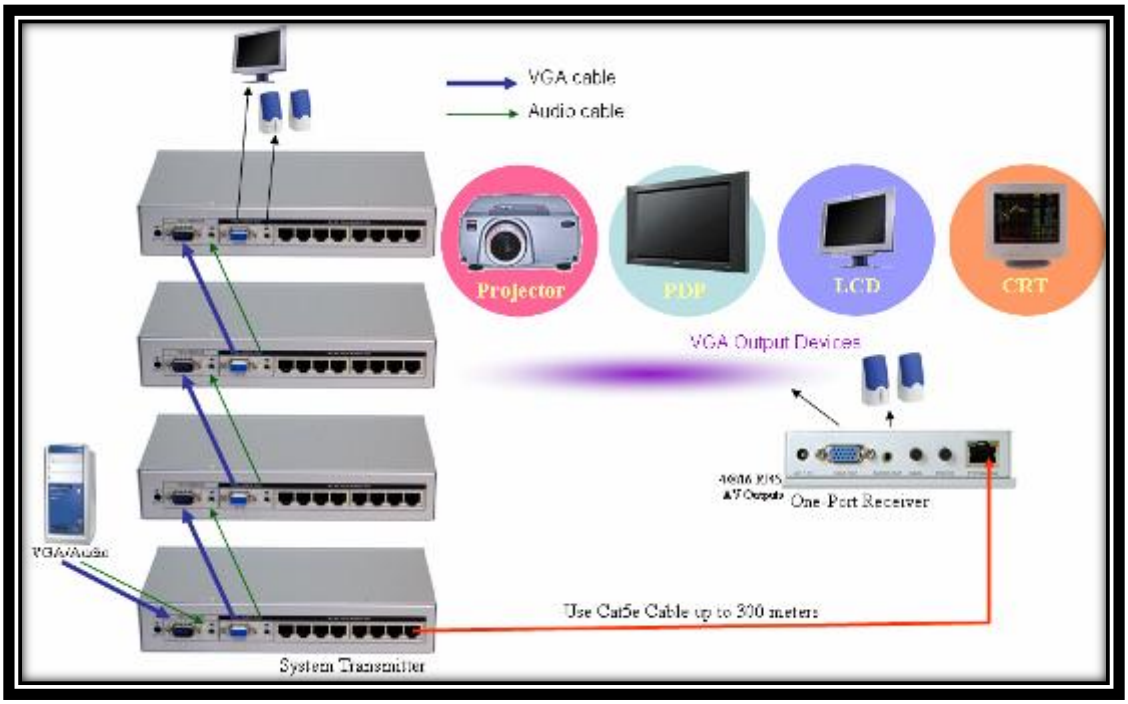
f. **System Expansion through UTP:** This series can stack into maximum three layers of UTP section to reach more AV outputs which depends on the display device. You may reach a lower VGA solution than single layer.

> *The suggested range of VGA Broadcasting:*
> *800 x 600 @ 900m (2950 ft)*
> *1280 x 1024 @ 600m (2000 ft)*
> *2048 x 1536 @ 300m (1000 ft)*



Stack Three Layers of AV Extender through Cat5e to reach more Displays

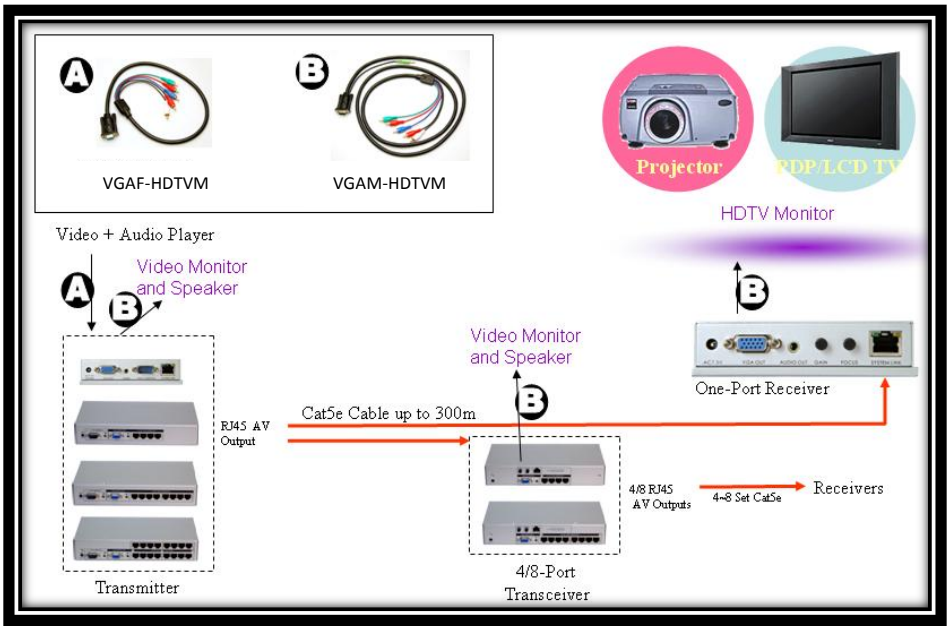
g. **Local System Expansion:** You can also stack up to 4 layers of system Transceiver to generate more RJ45 outputs of AV signal locally, please refer to following diagram.



Stack Four 8 Port System Transceivers Locally to Generate More RJ45 AV Output Signals

Section 2: Extend Component Video and Audio by HDTV Cable Kit

For connecting Media or DVD **PLAYER** to the Transmitter, use VGAF-HDTVM cable and for connecting **MONITOR** to the Transmitter, Transceiver, and the Receiver use VGAM-HDTVM.

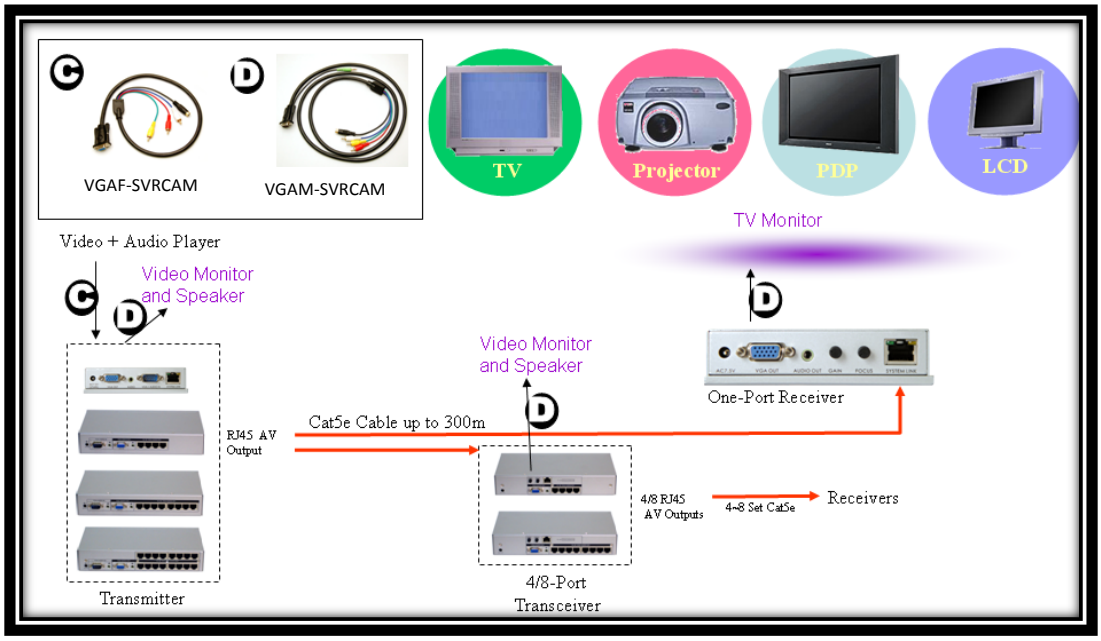


Installation Diagram for connecting HDTV Cable Kit

General Troubleshooting – HDTV Cable Kit	
Problem	**Possible Solution**
The colors on my TV display are incorrect	• Ensure that the connections between the Component cable and your HDTV are correct (Y=Green, Pb=Blue, Pr=Red).
There is no display on my TV	• Your TV will not display anything until Windows starts; this may take several minutes. • Set your TV to YPbPr (Component) input. • Ensure that HDTV Component cables are properly connected

Section 3: Extend Composite, S-Video and Audio by TV Cable Kit

For connecting Media and DVD **PLAYER** to the Transmitter, use VGAF-SVRCAM cable and for connecting **MONITOR** to the Transmitter, Transceiver and the Receiver use VGAM-SVRCAM cable.



Installation Diagram for Connecting TV Cable Kit

Specifications

AV Transmitter

Model	VGA-C5-S	VGA-C5-4	VGA-C5-8	VGA-C5-16
Description	1 Port AV Transmitter	4 Port AV Transmitter	8 Port AV Transmitter	16 Port AV Transmitter
AV Input	AV x 1			
AV Output	AV x 1 RJ45 x 1	AV x 1 RJ45 x 4	AV x 1 RJ45 x 8	AV x 1 RJ45 x 16
Audio	Stereo			
PC Cable Kit	UAV	VGA and Audio		
HDTV Cable Kit	VGAF-HDTVM (For Player) VGAM-HDTVM (For Monitor)			
TV Cable Kit	VGAF-SVRCAM (For Player) VGAM-SVRCAM (For Monitor)			
LED	Power and Activity			
Video Quality	PC: Maximum Resolution of 2048 x 1536 HDTV: 480i, 480p, 720i, 720p, 1080i, 1080p TV: 480i, 480p, 720i			
Power Consumption	USB DC 5V Power or AC 7.5V 250mA	DC 9V 300mA	DC 9V 480mA	DC 9V 800mA
Dimensions (LxWxH)	62x113x29	240x180x44		
Operating Temperature	0 - 50°C			
Storage Temperature	-20 - 60°C			
Humidity	10 – 90%			

AV Transceiver and Receiver

Model	VGA-C5-4-SR	VGA-C5-8-SR	VGA-C5-R
Description	4 Port AV Transceiver	8 Port AV Transceiver	1 Port AV Receiver
AV Input	RJ45 x 1		
AV Output	RJ45 x 4	RJ45 x 8	AV x 1
Audio	Mono		
HDTV Cable Kit	VGAM-HDTVM (For Monitor)		-
TV Cable Kit	VGAM-SVRCAM (For Monitor)		-
Video CTRL	Video Gain and Focus		
LED	Power and Activity		
Video Quality	PC: Maximum Resolution of 2048 x 1536 HDTV: 480i, 480p, 720i, 720p, 1080i, 1080p TV: 480i, 480p, 720i		
Power Consumption	DC 9V 550mA	DC 9V 950mA	DC 9V 250mA
Dimensions (LxWxH)	240x180x44		62x113x29
Operating Temperature	0 - 50°C		
Storage Temperature	0 – 60°C		
Humidity	0 – 90%		

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